

**REMOTE ANTENNA for AXESSTEL MV400 1xEVDO Gateway (1900MHz)** (NOTE 5.0)

**Receive Diversity Antenna [OPTIONAL]**

2 821-896MHz, 1850-1990MHz  
9dBi Omni antenna, N-Female,  
L=18", mount on 1/4" mast

NOTE 2.0

**Primary Antenna**

1 1800-1990MHz, 9 Element Yagi.  
14dBi Gain, 40° AZ BW, 36° EL BW, N-  
Female. Mount on 1/4"-2" OD mast

NOTE 4.0

3 2ft LMR400 Cable, N-Male/N-  
Male Jumper

4 Lightning discharge device DC-6GHz,  
N-Fem, 50Ω, (OPTIONAL)

NOTE 1.0

NOTE 1.0

**Roof/ Outside Wall**

5 20ft LMR400 Coaxial Cable, N-Male/N-Male,  
Attenuation = 5.8dB/100ft @ 1.9GHz (1.2dB  
loss for this 20ft run)

**In-Building or Weatherized/  
Powered Outdoor Enclosure**

WiFi 802.11b/g (connect optional  
high gain outdoor 2.4GHz antennas)

Antenna Pigtail &/or  
Adapter

MV400 Cellular Gateway

NOTE 3.0

CAT5/6 to LAN

**MV400 Series Gateway  
DETAIL**

NOTE 3.0



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**Axesstel MV400-Series External Antenna & Pigtail Options**

Shown for 1900MHz Frequency Band – See notes for 450, 800, & 800/1900 MHz  
JOB # BWA-40850-xxxx  
Cellular 1xEVDO RF Signal Improvement

DRAWN BY: RT (Engr)  
APPROVED BY:

SIZE

LIC NO

DWG NO

REV

AZ ROC # 253407

BW-408500000-001

1A

FREQ(s): 1.9GHz PCS, 2.4GHz ISM

SCALE

NO SCALE

FRN: 0018086041

SHEET

1 OF 1

Bill of Materials			
ITEM	QTY.	RFWEL SKU	DESCRIPTION
1	1	CL301124	1800-1900MHz Yagi Antenna, 14dBi, N-Female Jack
2	1	TSCL295-PW	9dBi Dual Band Omni-Directional Cellular Antenna, N-Female Jack
3	2	952302	2ft LMR-400 low loss coaxial cable (N-Male/N-Male)
4	2	LPNFN276V	Coax Lightning protector DC-6GHz, IL<0.7dB, 276VDC, N-Fem
5	2	CA3N020	20ft LMR-400 low loss coaxial cable (N-Male/N-Male)
6	1	ADPTNCMNF	N-Female/ TNC-Male Connector
7	1	MV400	Axesstel MV400 Series CDMA 1xEVDO RevA WiFi Gateway

**NOTES:**

1.0 Ground per NEC-2005 Art820 using 14AWG+ grounding electrode. Strongly recommended for rooftop installations.

2.0 Preferably separate primary and diversity antennas by at least 2ft (Orient directional Yagi away from omnidirectional antenna to exploit the >30dB Front-to-Back ratio of Yagi and provide for better spatial diversity).

3.0 If using only one antenna, plug it into the primary antenna port labeled "TX/RX0" (see Modem Detail) and leave "RX1" Antenna connected. For best RF performance we recommend using dual remote antennas.

4.0 Orient primary Yagi antenna to direction of maximum received signal strength. Mount horizontally with elements vertical. Allow >3ft clearance around Yagi.

5.0 For a dual-band 800/1900MHz solution (MV440) replace item 1 with:

- i) Another of Item2, OR
- ii) SKU = RFWAT2P5LPDANF: 800-2700MHz 8dBi Cellular/WiMax Wideband Log-Periodic Antenna, OR
- iii) SKU = TSAN322000: 800/1900MHz 7/10dBi Dual Band Low Profile Patch Antenna

For 800MHz only (MV420), 450MHz (MV410) or for other styles of antennas e.g Low-Profile indoor, ceiling mount, vehicle, tabletop etc contact us [www.rfwel.com/contact.php](http://www.rfwel.com/contact.php)